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**GAMBLING INVOLVEMENT AND PROBLEM GAMBLING
IN MONTANA**

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EXECUTIVE SUMMARY

This report presents the findings of a state-wide survey of gambling involvement and gambling problems in Montana. A large sample of adult residents over the age of 18 (N=1,020) were interviewed about the types of gambling they have tried, the amounts of money they spend on gambling, and about problems related to their gambling. The results of the survey are comparable with the results of similar surveys carried out in other states.

Key Findings

- ♠ The lifetime prevalence rates of problem and pathological gambling in Montana are much higher than the rates found in Iowa and slightly higher than in South Dakota. The lifetime prevalence rates in Montana are lower than prevalence rates found in the Northeast of the United States. As with lifetime rates, the current prevalence rates of problem and probable pathological gambling in Montana are higher than in South Dakota.
- ♣ The lifetime prevalence rate of problem gambling in Montana is 2.3% and the lifetime prevalence rate of pathological gambling is 1.3% of the adult population. Based on these figures, we estimate that between 8,000 and 18,600 adult residents of Montana have been problem gamblers at some time in their lives. In addition, we estimate that between 3,500 to 11,500 adult residents of Montana may have been pathological gamblers at some time in their lives.
- ♥ The current prevalence rate of problem gambling in Montana is 1.5% and the current prevalence rate of pathological gambling is 0.7% of the adult population. Based on these figures, we estimate that between 1,100 and 7,000 adult residents of Montana are currently probable pathological gamblers. We estimate that an additional 4,400 and 12,900 adult residents of Montana are currently problem gamblers.
- ♦ In Montana, for the first time, there is no significant difference between lifetime problem and probable pathological gamblers in terms of gender. Lifetime problem and probable pathological gamblers in Montana are just as likely to be women as the general population.
- ♠ The only significant difference between lifetime problem and probable pathological gamblers and the general population in Montana is in terms of age. Lifetime problem and probable pathological gamblers in Montana are significantly more likely to be under the age of 30 than the general population.

- ♣ The most popular types of gambling among Montana respondents who have ever gambled are lottery games, charitable gaming, and gaming machines. Live keno and bingo, bets with friends, horse race wagering and sports pools are also popular among Montana respondents.
- ♥ Montana respondents most frequently cite fun or entertainment as their main reason for gambling. Other important reasons include winning money, socializing and to support worthy causes.
- ♦ Gaming machines and non-instant lottery games in Montana attract the greatest monthly gambling expenditures. Wagering on horse races is characterized by the highest proportion of players who spent over \$50 per month.
- ♠ Problem and pathological gamblers in Montana are more likely to have played gaming machines and less likely to have wagered on sports or card games than problem and probable pathological gamblers in other states.

Future Directions

This study provides a solid foundation for future policy making and planning for services for problem and pathological gamblers in Montana. Consideration must now be given to educating Montana residents about the potential problems associated with gambling, to providing treatment services for those individuals who experience problems related to their gambling, and to ensuring that adequate and continuing funds for such efforts are made available.

In the future, it will be important to consider what steps can be taken by state agencies, mental health and substance abuse treatment professionals, educators and gaming industries to minimize the rates of problem and pathological gambling in Montana. Particular consideration should be given to developing prevention, education and treatment services aimed at women and youthful gamblers.

INTRODUCTION

In the 1970s, as states experienced increasingly serious financial problems, state legislatures around the country began to legalize many types of gambling. Between 1975 and 1990, 33 states authorized state-run lotteries (LaFleur & Hevener 1991). Although growth in the availability of casino-style gambling was initially slow, expansion has been rapid in the past three years. Saloons with card games and slot machines are now legal in South Dakota as well as in Colorado. Riverboat gambling is now legal in four states, including Iowa, Illinois, Louisiana and Mississippi. Since 1990, five states have legalized video lottery terminals and at least seven more state legislatures are considering their legalization. In the wake of the federal Indian Gaming Regulatory Act of 1988, nine states have established compacts with Native American groups to allow casino-style gambling on reservation lands and another thirteen states have compacts pending (Mikelberg 1992). In 1991, Americans legally wagered \$304 billion on all types of gambling, including parimutuels, lotteries, casinos, bookmaking, cards, bingo, charitable gaming and on Indian reservations (Christiansen 1992).

With the increasing availability of legal gambling, the public has become more aware of the phenomenon of pathological gambling. Awareness has been raised largely through media reports of the gambling-related problems of such major collegiate and professional sports figures as Art Schlichter, Pete Rose and Chet Forte (Eskenazi 1990; Keteyian 1986; Sokolove 1990). In 1980, the American Psychiatric Association included pathological gambling in its Diagnostic and Statistical Manual for the first time (American Psychiatric Association 1980). This official recognition of the problem as a mental illness served as the foundation for the development of professional mental health services for problem and pathological gamblers. By 1991, there were 13 states providing funds for the treatment of problem and pathological gambling (National Council on Problem Gambling 1991).

In the wake of the spread of gambling in Montana, and in response to issues raised both by opponents of legalized gambling and by other groups concerned with gaming regulation, the Montana Department of Corrections and Human Services elected to fund a survey of the prevalence of problem and probable pathological gambling in the state. The results of that survey are reported here. The report reviews the methods used to collect the data, discusses gambling involvement by Montana residents, identifies the prevalence of problem and probable pathological gambling among the adult population of Montana and compares these results with similar studies carried out in other parts of the United States.

METHODS

The survey in Montana builds on work carried out in other parts of the United States as well as internationally. All but two of the prevalence surveys of problem and pathological gambling carried out in the United States have used the South Oaks Gambling Screen (SOGS) (Lesieur & Blume 1987). Prevalence surveys using the SOGS have been completed in California, Connecticut, Iowa, Maryland, Massachusetts, New Jersey and New York (Volberg 1991; Volberg & Steadman 1988, 1989, 1992). Prevalence surveys using a revised version of the same questionnaire have recently been completed in South Dakota (Volberg & Stuefen 1991), Texas and New Zealand (Abbott & Volberg 1991).

In all of these surveys, respondents were contacted and interviewed by telephone. The number of interviews completed in each state was determined by balancing available resources, confidence intervals and the size of each state's population. Research based on the South Oaks Gambling Screen represents the largest existing database on gambling involvement, problem gambling and pathological gambling in the general population in the United States or internationally.

The South Oaks Gambling Screen is a 20-item scale derived from the diagnostic criteria for pathological gambling (American Psychiatric Association 1980). In developing the SOGS, a large pool of variables were subjected to discriminant analysis. The results of this analysis were cross-tabulated with assessments of independent counselors. The scoring system was designed to minimize the number of false-negative and false-positive cases. The instrument has been found valid and reliable in distinguishing pathological gamblers among hospital workers, university students, high school students, prison inmates and inpatients in alcohol and substance abuse treatment programs (Lesieur & Blume 1987; Lesieur, Blume & Zoppa 1986; Lesieur & Klein 1985, 1987).

The surveys in Montana, South Dakota and Texas used a revised version of the instrument used in earlier surveys. In revising the South Oaks Gambling Screen, the preliminary section of the questionnaire was expanded in order to collect more detailed information about gambling frequency and estimated expenditures in the general population. In addition, the SOGS items were expanded to assess both lifetime and current prevalence of problem and pathological gambling. This revised version has been designated SOGS-R (Abbott & Volberg 1992) to distinguish it from the original version used in earlier surveys and from a modified version of the SOGS (SOGS-M) that was used in a survey in Minnesota (Laudergan, Schaefer, Eckhoff & Pirie 1990). To determine if these changes had any impact on reported prevalence rates, the SOGS-R was tested in Iowa where an earlier prevalence survey had been carried out. The difference in the prevalence rates for these two surveys was 0.1% (Volberg & Stuefen 1991).

The survey in Montana was carried out in three stages. In the first stage, Dr. Volberg and Professor Joe Floyd of Eastern Montana College met with staff from the Montana Department of Corrections and Human Services, the Gambling Control Division, the Horse Racing Commission and the Lottery Commission to finalize the questionnaire. In the second stage, data collection was carried out by Eastern Montana College staff under the direction of Professor Floyd. Professor Floyd provided Dr. Volberg with the Montana data for the third stage of the project which included analysis of the data and preparation of this report.

Sampling Design

For the Montana survey, a sample of telephone numbers was purchased from Survey Sampling, Inc. of Fairfield, Connecticut. The numbers in this sample were proportional to the actual incidence of prefixes and working blocks of telephone numbers in the state. Listed and unlisted telephone numbers were included in the sample. Random selection of respondents within households identified through the purchased sample was used. Up to five attempts were made to contact each number and up to five callbacks were made to complete an interview with each selected respondent.

Demographic data from the sample were compared with data from the 1990 United States census in order to determine whether the sample was representative of the population of Montana. There is only one difference of note between the sample from this survey and the census data. While nearly 5% of the adult population of Montana is classified by the Census Bureau as Native American, only 3% of the respondents in the sample indicated that they were Native Americans. The impact of this difference is likely to be conservative since non-White respondents are more likely to score as problem or probable pathological gamblers.

Response Rates

Response rates are calculated in a variety of ways to take account of different dispositions of attempts to contact telephone-owning households. In the case of Montana, dispositions that were coded as "No Answer" were excluded from the calculation of the response rate on the recommendation of Professor Floyd. Excluding "No Answers" from the calculation is based on the assumption that only individuals who had the opportunity to agree or refuse to be interviewed for this survey should be counted in the response rate.

Using this formula, the response rate in Montana was 63% which compares well with response rates in other states where similar surveys have been done. Exclusion of "No Answers" from the response rate is likely to yield conservative prevalence rates since a proportion of these households may contain a problem or pathological gambler who is chronically unavailable to answer the telephone.

Comparing Montana with Other States

As noted, the demographic characteristics of respondents in the Montana survey were compared to 1990 census data to determine whether the sample was representative of the general population. The sample accurately reflects the demographics of the general population in terms of gender, age, marital status, religious background and household income. The sample does not completely reflect the Native American population in the state of Montana.

To compare gambling involvement and prevalence rates of problem and probable pathological gambling in Montana with those in other states, it is necessary to understand differences in the demographics of respondents in each of these states. As the following table makes clear, respondents from the Northeastern states of Maryland, Massachusetts, New Jersey and New York are more ethnically diverse, somewhat younger, less likely to be married, less likely to have a Protestant religious background, and much less likely to have an annual household income under \$25,000 per year than respondents in Montana.

The respondents from Montana look much more like those from Iowa and South Dakota. Respondents from these three states are equally likely to be White, married, and to have an annual household income under \$25,000 per year. Respondents from Montana are more likely to be male than those from other states and more likely to have graduated from high school. Respondents from Montana are most similar to respondents from Iowa in terms of Protestant religious background and most similar to respondents from South Dakota in terms of age.

TABLE 1
Demographic Characteristics of General Population Samples
in Surveys of Problem Gambling

Demographic Variables	East Coast* (N=3500)	Iowa (N=750)	South Dakota (N=1560)	Montana (N=1020)
Male	45 %	41 %	44 %	49 %
Non-White	20 %	4 %	3 %	4 %
Under 30	25 %	21 %	17 %	16 %
High School Graduate	88 %	87 %	87 %	92 %
Unmarried	47 %	37 %	34 %	36 %
Protestant	28 %	58 %	70 %	56 %
Annual HH Income Under \$25,000	28 %	44 %	46 %	41 %

* Includes Maryland, Massachusetts, New Jersey and New York.

GAMBLING IN MONTANA

For each different type of gambling, respondents were asked whether they had ever tried this type of gambling, whether they had tried it in the past year, and whether they participated regularly (once a week or more) in this type of gambling. Chi-square analysis was used to test for statistical significance.

Non-Gamblers in the General Population

As in other states, there was a sizable proportion of the Montana sample (14%) who said that they never participated in any of the 16 gambling activities included in the questionnaire. In contrast to other states, men were just as likely as women to have never gambled (13% vs 14%). Older individuals were only slightly more likely than younger respondents to have never gambled (14% vs 11%). High school graduates, individuals with a Protestant religious background, and those with annual household incomes under \$25,000 per year were significantly more likely to have never gambled.

Gambling Involvement in the General Population

The most popular types of gambling among Montana respondents were the state's lottery games, charitable gaming, and gaming machines. Other popular types of gambling among Montana respondents were live keno and bingo, bets with friends, horse race wagering and sports pools. A conversion rate is used to assess how likely respondents are to become regular players if they have ever tried a gambling activity. The conversion rate for each type of gambling is determined by dividing the number of respondents who said that they gambled once a week or more by the number of respondents who had ever tried each type of gambling. The following table shows lifetime involvement and conversion rates for the most popular types of gambling among Montana respondents.

TABLE 2
Lifetime Involvement and Conversion Rates
for Different Types of Wagering

Type of Wagering	Ever Tried	Conversion Rate
Instant Lottery Games	63%	16%
Charitable Gaming	56%	3%
Montana Gaming Machines	53%	16%
Other Lottery Games	50%	33%
Bets with Friends	37%	3%
Live Keno or Bingo	36%	7%
Horse Races	31%	1%
Sports Pools	28%	5%
Montana Casino Card Games	5%	14%

While overall conversion rates are highest for lottery games, Montana gaming machines and card games, these rates are quite variable according to the age of the respondent. Conversion rates by age group for the most popular types of gambling are shown in Figures 1 through 10.

Instant Lottery Games (Figure 1)

Overall, 63% of the respondents had ever played Montana's instant lottery games. Recent participation, in the past year, was 46% while 10% of the respondents said that they played instant lottery games regularly. That is, 16% of those who have ever tried Montana's instant lottery games have become regular players. Instant lottery games are most popular among respondents aged 30 to 39 although the conversion rate from those who have ever played to those who play regularly is highest for respondents aged 50 to 64.

Other Lottery Games (Figure 2)

Overall, 50% of the respondents had ever bet on lottery games besides instant lottery. Recent participation, in the past year, was 46% while 16% of the respondents said that they played lottery games regularly. That is, 33% of those who ever played lottery games have become regular weekly players. Lottery games are most popular among respondents aged 50 to 64 and the conversion rate is also highest for players in this age group.

Live Bingo or Keno (Figure 3)

Overall, 36% of the respondents had ever played live bingo or keno games. Recent participation, in the past year, was 19% while only 2% of the respondents said that they played live bingo or keno regularly. That is, 7% of the respondents who had ever played live bingo or keno games have become regular players. Montana residents between the ages of 30 and 39 are most likely to have ever played live bingo or keno. Those over the age of 65 are most likely to be regular players.

Charitable Gaming (Figure 4)

Overall, 56% of the respondents had ever spent money on charitable gaming. Recent participation, in the past year, was 40% while only 2% of the respondents said that they spent money on charitable gaming regularly. Only 3% of those who have ever spent money on charitable gaming have become regular weekly participants. Respondents between the ages of 30 and 49 are most likely to have ever participated in charitable gaming.

Montana Gaming Machines (Figure 5)

Overall, 53% of the respondents had ever spent money on gaming machines such as keno, poker or pinball, in Montana. Recent participation, in the past year, was 44% while 9% of the respondents said that they spent money on gaming machines regularly. That is, 16% of those who have ever spent money on gaming machines have become regular weekly participants. Wagering on Montana gaming machines is most popular among respondents under the age of 40 although respondents over the age of 65 are most likely to become regular players.

Montana Casino Card Games (Figure 6)

Overall, only 5% of the respondents had ever wagered on card games in a Montana casino. Recent participation, in the past year, was 2% while less than 1% of the respondents said that they wagered on card games in Montana casinos regularly. It is interesting to note that despite the low rate of lifetime wagering on card games in Montana casinos, the conversion rate from those who have ever played to those who play regularly (14%) is quite high. Only the conversion rates for lottery play and Montana gaming machines are higher.

Sports Pools (Figure 7)

Overall, 28% of the respondents had ever wagered on sports pools including Calcutta pools and sports tab games. Recent participation, in the past year, was 17% while 1.5% of the respondents said that they wagered on sports pools regularly. That is, 5% of the residents who have ever wagered on sports pools have become regular weekly players. While lifetime participation in sports pools is highest among respondents between the ages of 30 and 49, the conversion rate to regular wagering on sports pools is highest among respondents under the age of 30 and among those over the age of 65.

Bets with Friends or Co-Workers (Figure 8)

Overall, 37% of the respondents had ever wagered on the outcome of sports or other events with friends, acquaintances or co-workers. Recent participation, in the past year, was 24% while 1.2% of the respondents said that they wagered regularly on the outcome of events with friends or co-workers. This type of wagering is most popular among respondents under the age of 30 and the conversion rate from lifetime participation to regular play is also highest among respondents in this age group.

Sports Betting with a Bookie (Figure 9)

Only 1.6% of the respondents had ever wagered on sports through a bookie. Recent participation, in the past year, was even lower (0.3%) while only one respondent claimed to wager on sports through a bookie on a weekly basis. Montana respondents between the ages of 50 and 64 are most likely to have ever wagered on sports through a bookie.

Horse Racing (Figure 10)

Overall, 31% of the respondents had ever wagered on horse or mule races, whether on track, off track or through a bookie. Recent participation, in the past year, was 10% while less than one percent (0.4%) of the respondents said that they wagered on horse or mule races regularly. Respondents between the ages of 40 and 49 were most likely to have ever wagered on horse races while those between 30 and 39 were most likely to do so regularly.

Other Types of Gambling

Respondents were asked about their participation in a variety of other types of wagering, including high-stakes private card games, fantasy sports leagues, speculative investments, and out-of-state gaming machines and casino games. Very small numbers of respondents had participated in any of these types of wagering. The conversion rates for all of these types of wagering tend to be extremely low.

Out-of-State Gaming Machines

Overall, 40% of the respondents had ever wagered on gaming machines at casinos outside of Montana. Recent participation, in the past year, was 15% while less than 1% of the respondents said that they played gaming machines at casinos outside of Montana on a regular basis. In contrast to gaming machines in Montana, wagering on gaming machines outside of Montana is most popular among respondents aged 50 to 64.

Other Out-of-State Casino Games

Overall, 19% of the respondents had ever wagered on card or dice games in out-of-state casinos. Recent participation, in the past year, was 5% while none of the respondents said that they wagered on out-of-state casino games regularly. As with gaming machines at out-of-state casinos, this low level of regular participation is easily explained by the distances that Montana residents must travel in order to wager on such games regularly. Respondents over the age of 65 were most likely to have played card or dice games at an out-of-state casino in the past year.

Speculative Investments

Overall, 11% of the respondents had ever wagered on speculative investments such as real estate, high risk stocks, option or futures. Recent participation, in the past year, was 5% while only one respondent said that he wagered on speculative investments on a regular basis.

High Stakes Private Card Games

Overall, 4% of the respondents had ever participated in high stakes private card games. Recent participation, in the past year, was 1.4% while only one respondent claimed to participate in high stakes private card games on a regular weekly basis. Montana residents under the age of 30 were most likely to have ever participated in high stakes private card games.

Fantasy Sports Leagues

Overall, only 1.5% of the respondents had ever wagered on fantasy sports leagues. Recent participation, in the past year, was 1.1% while none of the respondents said that they wagered regularly on fantasy sports leagues.

Reasons for Gambling

All respondents who indicated that they had ever taken part in any gambling activities (N=822) were asked to say why they did so. The most frequently cited reason for gambling was for fun or entertainment (45%). Other important reasons included winning money (20%), socializing (13%) and to support worthy causes (10%). Just over 1% of the respondents who gambled said that they did so to distract themselves from everyday problems.

Reasons given by Montana respondents for their participation in gambling activities differ most by gender, race, education and income. For example, women are more likely to say that they gamble to support worthy causes while men are more likely to say that they gamble for fun or entertainment. White respondents are less likely than non-White respondents to say that they gamble for excitement and challenge or to win money. Respondents with less than a high school education are more likely than those with higher education to say that they gamble in order to win money. Respondents with low annual household incomes are more likely than other respondents to say that they gamble in order to distract themselves from everyday problems.

Questions about reasons for gambling have only been asked in Montana and South Dakota. In South Dakota, reasons given by respondents for their participation in gambling differ most by gender, age and income. In South Dakota, men are more likely than women to say that they gamble for excitement or to win money. In South Dakota, respondents over 65 are less likely than younger respondents to say that they gamble in order to socialize or for excitement while in Montana, respondents over 65 are more likely to say that they gamble for these reasons. South Dakota respondents with low incomes are less likely than higher income respondents to say that they gamble in order to socialize or for entertainment.

Favorite Gambling Activities

Respondents were asked to identify their favorite type of gambling. As Figure 11 illustrates, over a quarter of the respondents who gambled preferred gaming machines such as video bingo, video keno and video poker. Other favorite gambling activities include instant lottery tickets, other lottery games, horse race wagering and live bingo and keno. The expressed preference for gaming machines contrasts with South Dakota, where nearly a quarter of the respondents who gambled indicated that they had no favorite gambling activity.

Recent Changes in Gambling Involvement

Based on information gathered by the University of Montana, there appears to have been a recent increase in the rate of gambling involvement among Montana residents. The 1989 Montana Poll found that 55% of the respondents had participated in some form of commercial gambling in the past year, including buying lottery tickets, wagering on horse races, playing live or video games, and wagering on sports or charitable games (Johnson 1990). In 1992, 73% of the respondents said that they had participated in one or more of these types of wagering in the past year. Even taking different measurement techniques into account, this is a sizable increase in the numbers of Montana residents who have recently participated in commercial gambling activities.

Expenditures on Different Types of Gambling

All respondents who had done any kind of gambling in the past year were asked to indicate how much money they spend on that activity in a typical month. The total monthly expenditure for each gambling activity was calculated by summing the amount of money spent by each respondent on each gambling activity. The total amount spent in a typical month by all respondents on all gambling activities was then calculated. The proportion of total monthly expenditure spent on each gambling activity was calculated by dividing the amount spent on each activity by the total monthly expenditure. Figure 12 illustrates the proportion of the total monthly expenditure associated with the most popular gambling activities in Montana.

Figures provided by the Montana Gambling Control Division were used to assess the reliability of estimates of expenditure provided by respondents in the survey. It should be noted that the figures from the Gambling Control Division are also estimates of expenditures on gambling although these figures are based on actual tax revenues. Average annual expenditures for different types of gambling were developed by multiplying the average monthly expenditure to obtain an annual figure and then multiplying this figure by the adult population of Montana. While the estimated annual expenditure for live bingo and keno is close to the Gambling Control Division figure, the estimated annual expenditure on Montana gaming machines is significantly lower. Estimated annual expenditures for lottery games and horse racing are higher than estimated by the Gambling Control Division.

Differences in estimates of gambling expenditure illustrate the importance of treating the estimated expenditure data from this and similar surveys with caution. These data are better suited for analyzing the relative importance of different types of gambling in the general population than for ascertaining actual spending levels on these types of wagering.

Several adjustments were made in calculating the total monthly expenditure on gambling for Montana. The first adjustment was to exclude a single individual who claimed to spend \$10,000 per month on the stockmarket. Another adjustment was to exclude speculative investments of all kinds from the calculation of total monthly expenditure. Amounts spent on speculative investments constitute 89% of the unadjusted total monthly expenditure. However, these investments are not universally regarded as a gambling activity. In addition, speculative investments reflect very large amounts of money (nearly \$500,000 per month) spent by a small number of respondents (5% of the sample).

A final adjustment was to exclude estimated monthly expenditures on out-of-state gambling in casinos and on gaming machines. Analysis of these data suggests that respondents may have been estimating annual expenditures on these types of gambling rather than monthly expenditures. Expenditures on these types of gambling constitute 46% of the unadjusted total monthly expenditure. Since the timeframe for these estimates appears to be different from estimates for other types of gambling, these amounts were also excluded from the analysis. These adjustments were made in order to explicate the relative gambling expenditures of the majority of Montana respondents.

The total monthly expenditure on all gambling activities was divided by the number of respondents (N=1,020) to obtain an average amount spent per respondent. Using this method, we calculate that respondents spend an average of \$27 on all gambling activities per month. If this figure is taken as an average amount spent on gambling by all individuals over 18 in Montana, we estimate that the total expenditure on gambling activities in the state as a whole is \$190 million per year.

While out-of-state gambling expenditures were excluded from our analysis of estimated monthly expenditures, it is interesting to note that if these amounts are included, the total expenditure on gambling activities is \$353 million. This compares to a figure of \$350 million estimated by the Gambling Control Division. It is likely that some of the difference between Montana respondents' estimated gambling expenditures and the Gambling Control Division's estimates is created by expenditures by out-of-state visitors to Montana.

As with gambling involvement, monthly gambling expenditures vary across demographic groups. Men spend significantly more money gambling (\$36 per month) than women (\$20 per month). In contrast to South Dakota, there are no significant differences among Montana respondents' monthly expenditures on gambling in terms of age. As in South Dakota, the majority of players spend modestly but there is a small group of respondents who spend over \$50 per month. In South Dakota, 10% of the respondents spent over \$50 per month on gambling while 13% of the Montana sample spent over \$50 per month on gambling.

Figure 13 illustrates differences in the distribution of the estimated amounts spent on different gambling activities. Gaming machines and non-instant lottery games in Montana attracted the greatest monthly gambling expenditures. Wagering on horse races was characterized by a high proportion of players who spent over \$50 per month although the total monthly expenditure on horse races is much less than the amounts spent on Montana gaming machines or non-instant lottery games.

PROBLEM AND PATHOLOGICAL GAMBLING IN MONTANA

In order to assess the prevalence of problem and probable pathological gambling in Montana, respondents' scores on the South Oaks Gambling Screen items were tallied. Consistent with other uses of the South Oaks Gambling Screen, respondents scoring 3 or 4 points on the lifetime SOGS items were classified as "lifetime problem gamblers" while respondents scoring 5 or more points were classified as "lifetime probable pathological gamblers."

Comparing Montana Prevalence Rates with Other States

The combined lifetime prevalence rates of problem and pathological gambling in Montana are higher than in Iowa and South Dakota but lower than in the Northeast of the United States.

TABLE 3
Comparing Lifetime Prevalence Rates by State

State	Problem & Pathological Gamblers	Adult Population (approximate)	Sample Size
Massachusetts	4.4%	4 million	750
New York	4.2%	13 million	1,000
New Jersey	4.2%	6 million	1,000
California	4.1%	20 million	1,250
Maryland	3.9%	3 million	750
Montana	3.6%	577,000	1,020
South Dakota	2.8%	500,000	1,560
Iowa	1.7%	3 million	750

According to the 1990 census, the population over 18 in Montana is 576,960 individuals. Calculation of the lifetime SOGS items shows that 1.3% of the Montana sample scored as lifetime probable pathological gamblers and 2.3% of the sample scored as lifetime problem gamblers. Based on these figures, we estimate that between 3,500 and 11,500 Montana residents can be classified as lifetime probable pathological gamblers. In addition, we estimate that between 8,000 and 18,600 Montana residents can be classified as lifetime problem gamblers.

In contrast to every other state where similar surveys have been done, there is only one significant difference between respondents who scored as lifetime problem or probable pathological gamblers and the larger sample. Lifetime problem and probable pathological gamblers in Montana are significantly more likely than the larger sample to be under 30 years of age. Lifetime problem and

probable pathological gamblers in Montana are not significantly more likely to be men than the larger sample. This is notable because of the salience of this demographic variable in every other study of gambling involvement and problem gambling in the general population.

Current Prevalence Rates in Montana

In Montana, as in South Dakota and Texas, current prevalence rates of problem and probable pathological gambling were determined in addition to lifetime prevalence rates. For each of the SOGS items, Montana respondents were asked whether the question applied to lifetime and to the past year. In Texas, a one-year measure of current prevalence was also used while in South Dakota, a 6-month measure was used. Respondents scoring 3 or 4 points on these current SOGS items were classified as "current problem gamblers" while respondents scoring 5 or more points on these items were classified as "current probable pathological gamblers."

Calculation of the current SOGS items shows that 0.7% of the Montana sample scored as current probable pathological gamblers and 1.5% of the sample scored as current problem gamblers. Based on these figures, we estimate that between 1,100 and 7,000 Montana residents can be classified as current probable pathological gamblers. We estimate that an additional 4,400 and 12,900 Montana residents can be classified as current problem gamblers.

Current prevalence rates of problem and probable pathological gambling are slightly higher than similar figures obtained in South Dakota. In South Dakota, 0.6% of the sample scored as current probable pathological gamblers and 0.8% of the sample scored as current problem gamblers.

DISCUSSION

This discussion focuses on comparisons of Montana with other states where similar surveys of gambling involvement and problem gambling have been done. The first section compares gambling involvement in the general population across states. The second section compares problem and probable pathological gamblers across states. The third section compares Montana with two other states where data were collected on lifetime gambling involvement.

Gambling Involvement Across States

Comparison of the following table with Table 1 suggests that there are only slight differences between the general population and the population that gambles in each state. Gamblers in the general population are more likely to be men than the general population. Gamblers living in the Northeast and in Iowa are more likely to be White and unmarried than the general population. Gamblers in Iowa are more likely to have low household incomes than the general population and gamblers in Iowa and South Dakota are more likely to be under the age of 30 than the general population.

TABLE 4
Characteristics of Gamblers in the General Population

Gamblers in the General Population	East Coast*	Iowa	South Dakota	Montana
Male	47%	43%	46%	50%
Non-White	16%	2%	3%	4%
Under 30	25%	24%	19%	16%
High School Graduate	89%	88%	91%	93%
Unmarried	45%	36%	33%	35%
Annual HH Income Under \$25,000	30%	48%	46%	40%

* Includes Maryland, Massachusetts, New Jersey and New York.

Comparison of these data with the only national survey of gambling involvement undertaken in the United States (Kallick-Kaufmann 1979) suggests that the demographic characteristics of gamblers have changed in the past seventeen years. Lifetime gambling participation has become more common among women, minorities, young adults, and individuals with lower education and income. These are groups that in the past were much less likely to gamble.

Preferred Types of Wagering Across States

In examining differences among states in relation to participation in gambling, it should be noted that data on gambling involvement from Montana are more detailed than data collected in any other state except South Dakota. We are able to compare gambling involvement in Montana and South Dakota with gambling involvement in other states for only five classes of wagering. In addition, we are only able to analyze these differences for lifetime participation rather than for recent or regular participation.

TABLE 5
Types of Gambling by Gamblers in the General Population

Types of Gambling Ever Tried	East Coast*	Iowa	South Dakota	Montana
Gaming Machines	49%	37%	54%	65%
Bingo	40%	31%	49%	36%
Played Card Games for Money	38%	39%	30%	8%
Parimutuel Wagering (horses and dogs)	37%	33%	30%	30%
Sports Betting (inc. pools, bets w/bookies)	27%	24%	43%	29%

* Includes Maryland, Massachusetts, New Jersey and New York.

Montana respondents are much more likely than respondents from other states to have ever wagered on gaming machines. Gaming machine wagering is lowest in Iowa where access to this type of gambling is most restricted. Respondents from Montana are much less likely than respondents from any other state to have played card games for money. Respondents from Montana are somewhat less likely to have wagered on horse racing than respondents from Iowa and South Dakota and just as likely as those from every state except South Dakota to have wagered on sports.

Problem and Probable Pathological Gambling Across States

The following discussion addresses differences between those who scored as lifetime problem or probable pathological gamblers in different states where similar surveys have been carried out in the general population. Differences in demographics, gambling involvement, personal and interpersonal costs and types of gambling-related debt are highlighted. Again, comparisons are limited to those scoring as lifetime problem or probable pathological gamblers since current prevalence data are only available from Montana and South Dakota. In addition, the numbers of individuals who score as current problem or probable pathological gamblers are too small to yield statistically significant comparisons in many cases.

Demographics of Problem and Probable Pathological Gamblers

To compare the demographics of problem and pathological gamblers, respondents in each state who scored as lifetime problem gamblers were combined with those who scored as lifetime probable pathological gamblers. This approach is based on our concern with determining differences between respondents without gambling problems and respondents with moderate to severe gambling problems.

As the following table makes clear, lifetime problem and probable pathological gamblers in all states are more likely to be male than the general population. However, lifetime problem and probable pathological gamblers in Montana are more likely to be women than those in any other state. In Montana, the ratio of female to male lifetime problem and probable pathological gamblers nearly matches the male to female ratio in general population.

TABLE 6
Comparing the Demographics of Problem and
Pathological Gamblers by State

Demographics of Problem & Pathological Gamblers	East Coast* (N = 146)	Iowa (N = 13)	South Dakota (N = 44)	Montana (N = 36)
Male	71 %	62 %	61 %	53 %
Non-White	34 %	0 %	9 %	6 %
Under 30	34 %	39 %	32 %	33 %
High School Graduate	77 %	85 %	86 %	94 %
Unmarried	54 %	39 %	64 %	33 %
Annual HH Income Under \$25,000	36 %	23 %	59 %	47 %

* Includes Maryland, Massachusetts, New Jersey and New York.

Lifetime problem and probable pathological gamblers in every state are more likely to be under the age of 30 than the general population. Lifetime problem and probable pathological gamblers in every state except Iowa are more likely to be non-White and to have annual household incomes under \$25,000 than the general population. Lifetime problem and probable pathological gamblers in South Dakota are more likely to be unmarried than the general population.

Gambling Involvement of Problem and Probable Pathological Gamblers

For the same reasons noted in the discussion of gambling involvement in the general population, gambling involvement among problem and probable pathological gamblers can be compared for only five classes of wagering. In addition, these differences can only be analyzed for lifetime participation.

TABLE 7
Gambling Involvement of
Problem and Pathological Gamblers by State

Type of Gambling	East Coast* (N=146)	Iowa (N=13)	South Dakota (N=44)	Montana (N=36)
Gaming Machines	71 %	62 %	75 %	92 %
Bingo	54 %	39 %	75 %	56 %
Played Card Games for Money	69 %	92 %	59 %	25 %
Parimutuel Wagering (horses & dogs)	62 %	62 %	55 %	53 %
Sports Betting	62 %	69 %	73 %	44 %

* Includes Maryland, Massachusetts, New Jersey and New York.

There are several differences in the lifetime gambling involvement of problem and probable pathological gamblers in Montana compared to those in other states. Problem and pathological gamblers in Montana are much more likely to have played gaming machines than problem and probable pathological gamblers in other states. Problem and probable pathological gamblers in Montana are much less likely to have wagered on sports or card games than problem and probable pathological gamblers in other states.

Scoring on the South Oaks Gambling Screen

Items in the SOGS are divided into two sections: (1) the personal and interpersonal effects of gambling involvement and (2) borrowing to gamble or to pay gambling debts. Scores on lifetime SOGS items related to these two domains are presented separately.

TABLE 8
Personal and Interpersonal Costs
of Problem and Pathological Gambling by State

Personal & Interpersonal Costs	East Coast* (N=146)	Iowa (N=13)	South Dakota (N=44)	Montana (N=36)
Spend more time or \$ than intended	82%	77%	89%	89%
Felt guilty about way you gamble	75%	92%	80%	58%
People criticized gambling	55%	31%	68%	44%
Claimed to win but in fact lost	35%	31%	30%	20%
Wanted to stop gambling but could not	35%	8%	32%	31%
Hidden evidence of gambling	27%	15%	27%	28%
Go back another day to win back \$	19%	23%	18%	25%
Had family arguments about gambling	19%	---	23%	22%

* Includes Maryland, Massachusetts, New Jersey and New York.

Lifetime problem and probable pathological gamblers in Montana are most similar to lifetime problem and probable pathological gamblers in South Dakota in terms of the personal and interpersonal costs associated with their gambling. Problem and probable pathological gamblers in Montana are somewhat less likely to say that they claimed to be winning at gambling when they lost and to acknowledge feeling guilty about the way that they gamble. They are just as likely as problem and probable pathological gamblers in most other states to "chase" their gambling losses, to spend more time or money than they intended on gambling, to want to stop gambling, and to have hidden evidence of gambling from family and friends.

TABLE 9
Comparing Borrowing Activities
of Problem and Pathological Gamblers by State

Borrowing Activities of Problem & Pathological Gamblers	East Coast* (N=146)	Iowa (N=13)	South Dakota (N=44)	Montana (N=36)
Relatives	22%	8%	30%	14%
Household Money	18%	---	21%	42%
Spouse	13%	---	7%	47%
Banks or Loan Companies	12%	---	7%	6%
Credit Cards	11%	---	11%	22%
Passed Bad Checks	7%	15%	9%	22%
Loan Sharks	5%	---	2%	6%
Cashed Stocks or Bonds	4%	8%	9%	3%
Sold Personal or Family Property	3%	---	11%	11%

* Includes Maryland, Massachusetts, New Jersey and New York.

Problem and probable pathological gamblers in Montana are more likely to have borrowed from household funds, from a spouse, on credit cards, and by passing bad checks than those in any other state. Problem and probable pathological gamblers in Montana are less likely to have borrowed from relatives than those in any state except Iowa. These respondents are also less likely to have cashed stocks or bonds than problem and probable pathological gamblers in Iowa or South Dakota.

Retrospectives on Gambling Careers

In Iowa, Massachusetts and Montana, respondents who had ever gambled were asked several questions about their lifetime involvement in gambling. In all three states, there are significant differences among three groups of respondents, including those who provided information about the age at which they started gambling (Montana N=733), those who had at some time felt nervous about the amounts they were gambling (Montana N=56), and those who scored as lifetime problem or probable pathological gamblers (Montana N=36). In all three states, respondents who became nervous and those who scored as problem or probable pathological gamblers are more likely to be men and under the age of 30 than respondents who gave the age at which they first gambled. In Montana, over half (56%) of the respondents who scored as lifetime problem or probable pathological gamblers claimed that they had never felt nervous about the amounts they were wagering.

As the following table shows, the group that became nervous was significantly more likely to be male than those who had never felt nervous. The group that scored as problem or probable pathological gamblers was significantly more likely to be under the age of 30 than those who had never felt nervous. There were no significant differences, however, between those who had felt nervous and those who scored as problem gamblers.

TABLE 10
Demographic Characteristics of
Those Who Gambled, Those Who Became Nervous
and Problem Gamblers

Demographics	Those Who Gambled and Gave Age (N=733)	Those Who Had Felt Nervous (N=56)	Problem & Pathological Gamblers (N=36)
Male	47%	71%	53%
Under 30	16%	20%	33%
White	96%	95%	94%
Married	65%	59%	67%
High School Graduate	94%	89%	94%
Income Less Than \$25,000/year	40%	39%	47%
5+ Types of Wagering in Past Year	16%	24%	34%

As the next table shows, there are several differences between those respondents who gave the age at which they began wagering, those who became nervous, and those who scored as problem or probable pathological gamblers in terms of lifetime gambling involvement. The group that became nervous was significantly more likely to have played live bingo or keno, to have wagered on gaming machines and card games, and to have bet on the outcome of sports and other events with friends and co-workers than those who gave the age at which they began wagering.

The group that scored as problem or probable pathological gamblers was significantly more likely to have wagered on instant lottery games, Montana gaming machines, card games in Montana casinos, and horse races as well as to have bet on the outcome of sports and other events with friends and co-workers than those who gave the age at which they began wagering. There were no significant differences between those who had ever felt nervous about their gambling and those who scored as problem or probable pathological gamblers in terms of their lifetime involvement in gambling.

TABLE 11
Lifetime Wagering of
Those Who Gambled, Those Who Became Nervous
and Problem Gamblers

Types of Wagering Ever Tried	Those Who Gambled and Gave Age (N = 733)	Those Who Had Felt Nervous (N = 56)	Problem & Pathological Gamblers (N = 36)
Gaming Machines	76%	86%	92%
Instant Lottery Games	73%	82%	92%
Charitable Gaming	66%	71%	67%
Other Lottery Games	59%	61%	72%
Bets with Friends or Co-Workers	42%	66%	61%
Live Keno or Bingo	40%	68%	56%
Horse Races	35%	36%	53%
Sports Pools	31%	45%	44%
Card Games	24%	50%	36%

The following table shows that respondents who became nervous about their wagering, as well as those who scored as problem or probable pathological gamblers, were more likely than other respondents to have started gambling before reaching 14 years of age. Respondents who scored as problem or probable pathological gamblers were also more likely to presently be under 30 years of age. Together, these data suggest that the period of time between starting to gamble and experiencing gambling-related problems is shorter for problem and probable pathological gamblers in Montana than it is for pathological gamblers entering professional treatment programs in the Northeast (Volberg 1992).

Respondents who gave the age at which they started wagering and those who scored as problem or probable pathological gamblers were most likely to have started wagering on gaming machines. Those who had ever felt nervous about their gambling were most likely to have started wagering on card games.

TABLE 12
Starting Age and Types of Wagering of
Those Who Gambled, Those Who Became Nervous
and Problem Gamblers

	Those Who Gambled and Gave Age (N=733)	Those Who Had Felt Nervous (N=56)	Problem & Pathological Gamblers (N=36)
Age When Started Wagering			
14 Years and Under	6%	16%	22%
15 to 17 Years	8%	23%	11%
18 to 24 Years	41%	30%	39%
25 Years and Over	45%	30%	28%
Current Age Group			
Under 30	16%	20%	33%
Over 30	84%	80%	67%
Type of Wagering When Started			
Sports (inc. bets w/friends)	11%	13%	19%
Cards	17%	43%	14%
Gaming Machines	37%	27%	45%

The following table illustrates that, as in Iowa and Massachusetts, the interval between when Montana respondents began wagering and when they became nervous about their wagering was much greater for problem and probable pathological gamblers than for those respondents who became nervous. It is worth noting once again that less than half of the respondents who scored as problem or probable pathological gamblers had ever felt nervous about their gambling.

TABLE 13
Mean Age and Favored Type of Wagering of
Those Who Gambled, Those Who Became Nervous
and Problem Gamblers

	Those Who Gambled and Gave Age (N=733)	Those Who Had Felt Nervous (N=56)	Problem & Pathological Gamblers (N=36)
Mean Age When Started	27	21	21
Mean Age When Became Nervous	---	24	30
Type of Wagering When Nervous			
Cards	---	30%	3%
Sports	---	14%	3%
Gaming Machines	---	23%	25%

Nearly a third of those who had ever felt nervous about their wagering had been playing cards and nearly a quarter had been wagering on gaming machines when this happened. In Iowa, nearly two-thirds of this group (63%) had been playing cards when they became nervous about their gambling and none had been wagering on gaming machines. Wagering on gaming machines was the most common type of gambling that problem and probable pathological gamblers in Montana who became nervous about their gambling were doing when this occurred.

SUMMARY AND CONCLUSION

Lifetime prevalence rates of problem and probable pathological gambling in Montana are higher than prevalence rates in Iowa or South Dakota although they remain below the rates detected in the Northeast of the United States. Current prevalence rates of problem and probable pathological gambling in Montana are higher than current prevalence rates in South Dakota. At a minimum, over 5,500 adults in Montana are currently experiencing moderate to severe problems related to their involvement in gambling.

Lifetime problem and probable pathological gamblers in Montana are more likely to be women than those in any other state. Lifetime problem and probable pathological gamblers in Montana are significantly more likely to be under the age of 30 than the general population. Problem and pathological gamblers in Montana are more likely to have played gaming machines and less likely to have wagered on sports or card games than problem and probable pathological gamblers in other states. Scoring patterns on lifetime SOGS measures in Montana are similar to the pattern exhibited by lower income pathological gamblers in other states (Volberg & Steadman 1992).

The state of Montana has recently legalized a great many types of gambling. The data from this survey indicate that significant numbers of the residents of Montana participate in these as well as other gambling, that they find gambling entertaining and enjoyable, and that they spend moderate amounts of money on gambling. It is clear that the state of Montana benefits from the gambling involvement of its citizens through the revenues raised from legal gambling. However, the results of this survey indicate that there are significant costs associated with gambling involvement among Montana residents, including financial, interpersonal and personal problems.

The data presented here provide a benchmark for future assessments of gambling involvement and problem gambling in Montana. These data also provide a foundation for policy making and planning for services for individuals who experience difficulties related to their involvement in gambling. Consideration must now be given to educating Montana residents about the potential problems associated with gambling, to providing treatment services for those individuals who experience problems related to their gambling, and to ensuring that adequate and continuing funds for such efforts are made available. In the future, it will be important for everyone concerned about and involved with legalized gambling in Montana to work together to develop ways to help those individuals who encounter problems related to their gambling.

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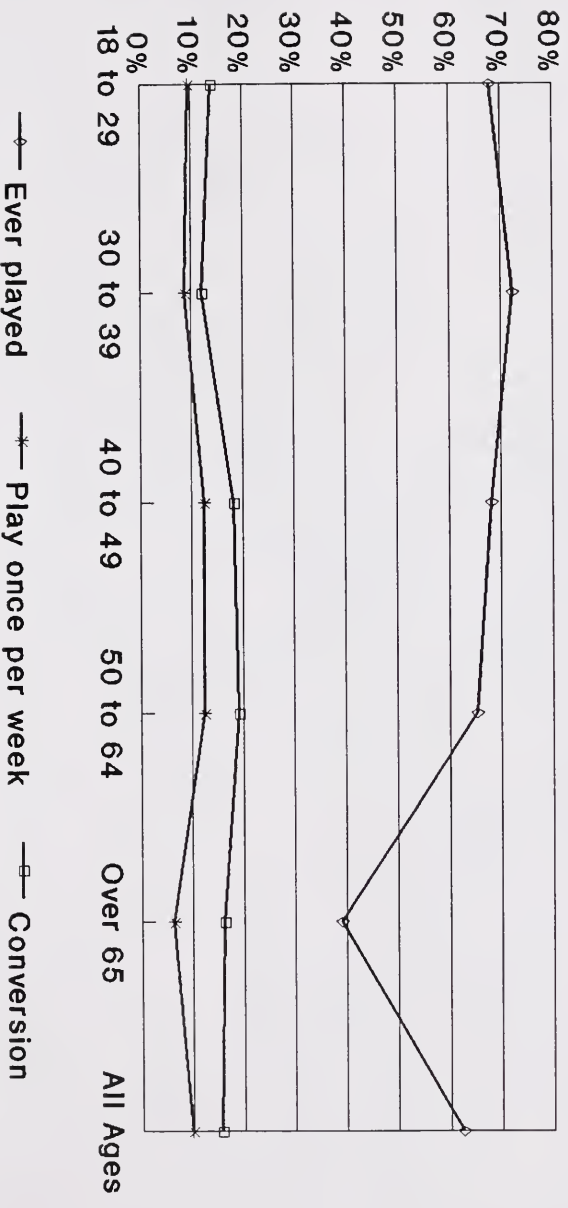
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Figure 1

Instant Lottery

Montana

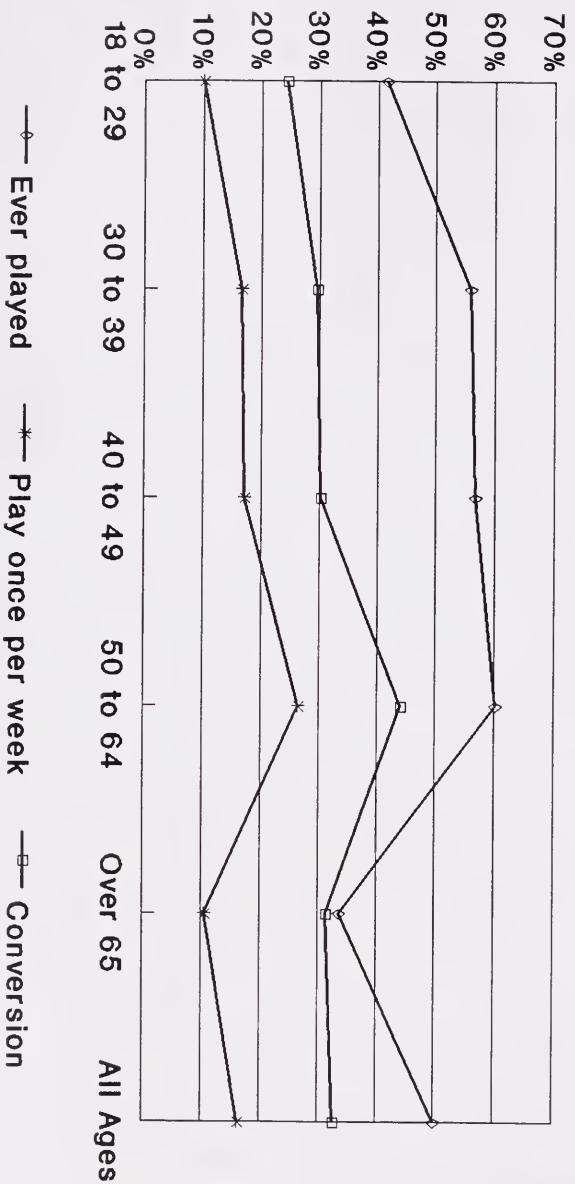


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Figure 2

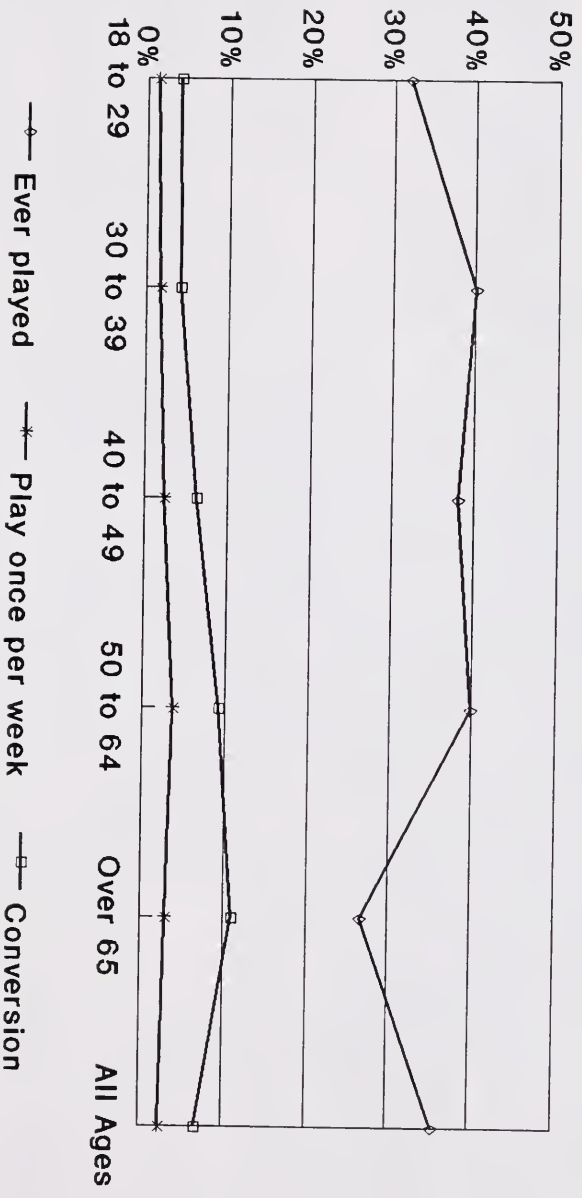
Other Lottery

Montana



N=1020

Figure 3 Live Keno or Bingo Montana

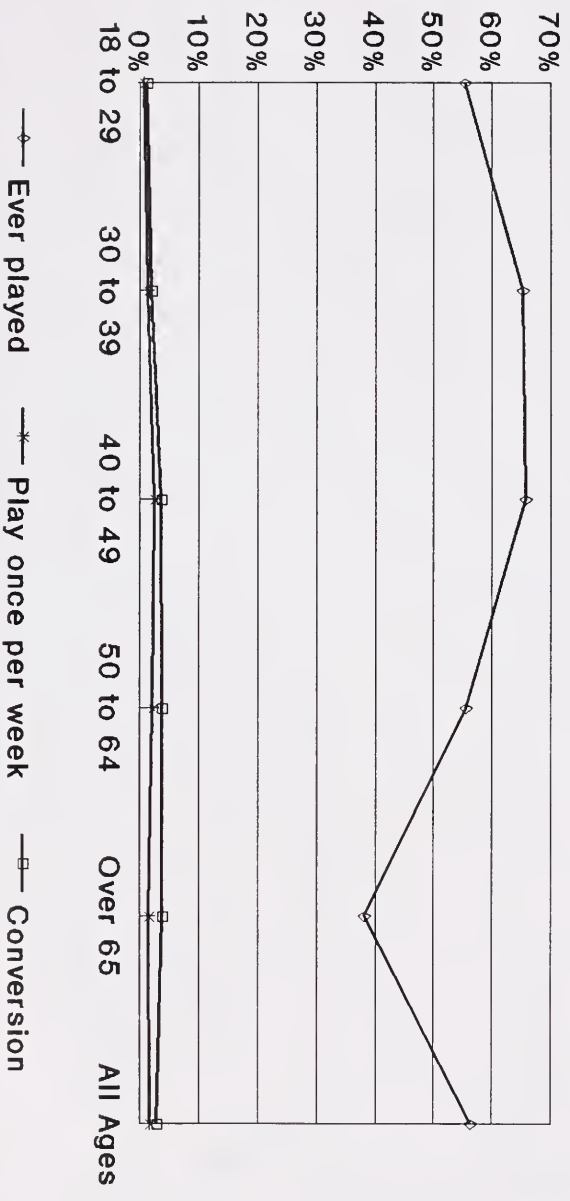


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Figure 4

Charitable Gaming

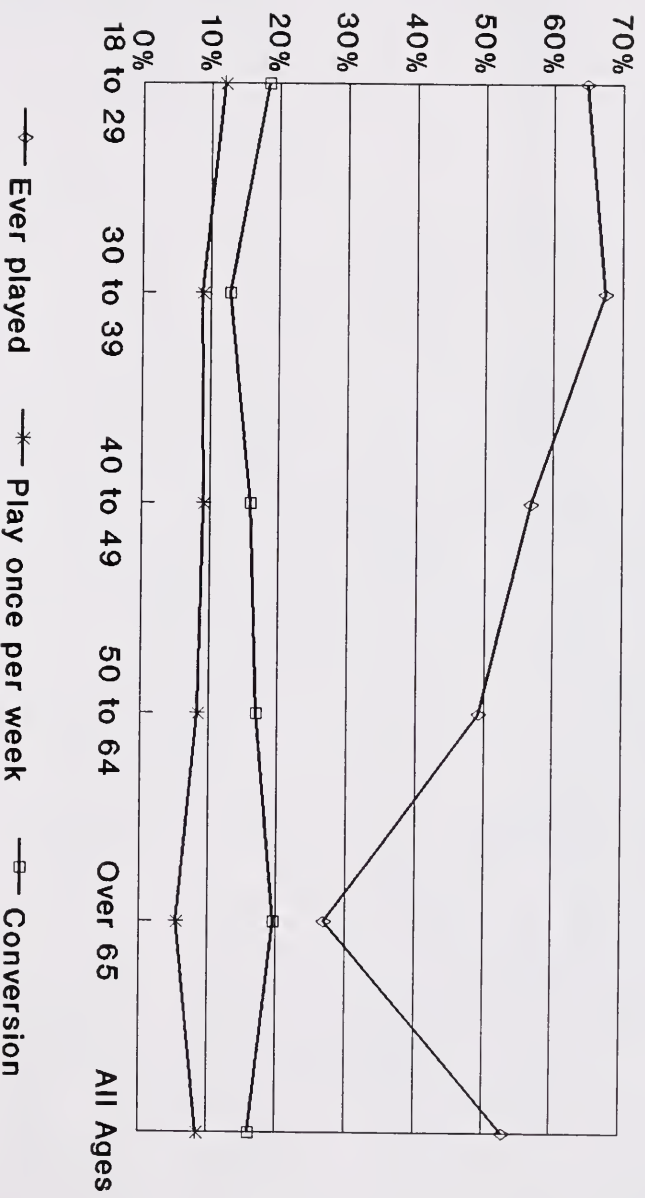
Montana



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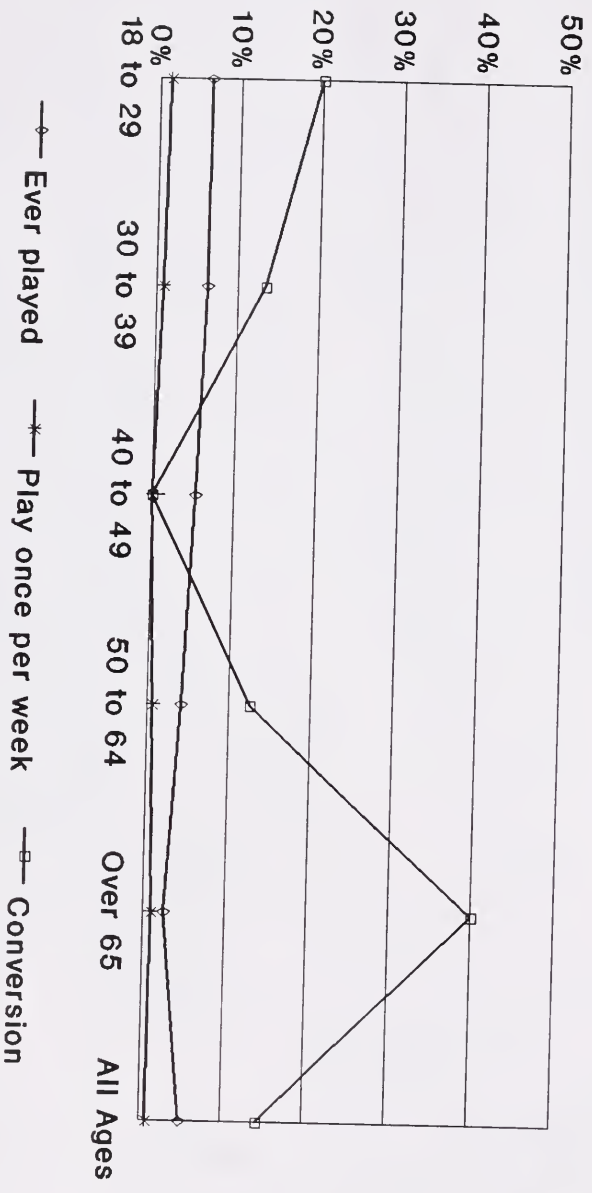
Figure 5

Montana Gaming Machines



N=1020

Figure 6 Card Games Montana

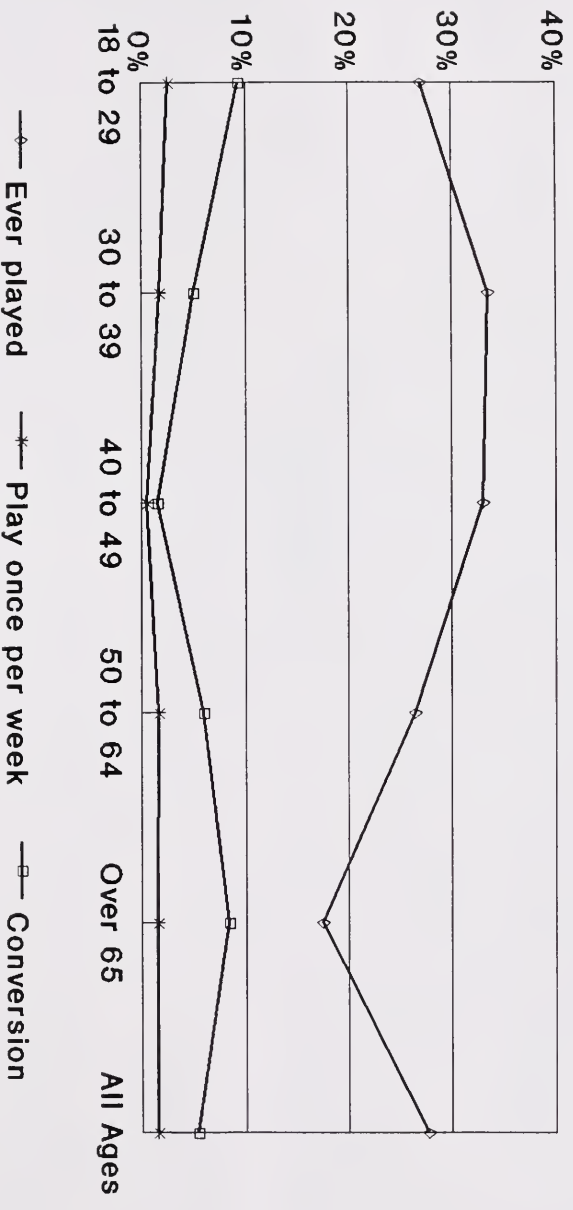


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Figure 7

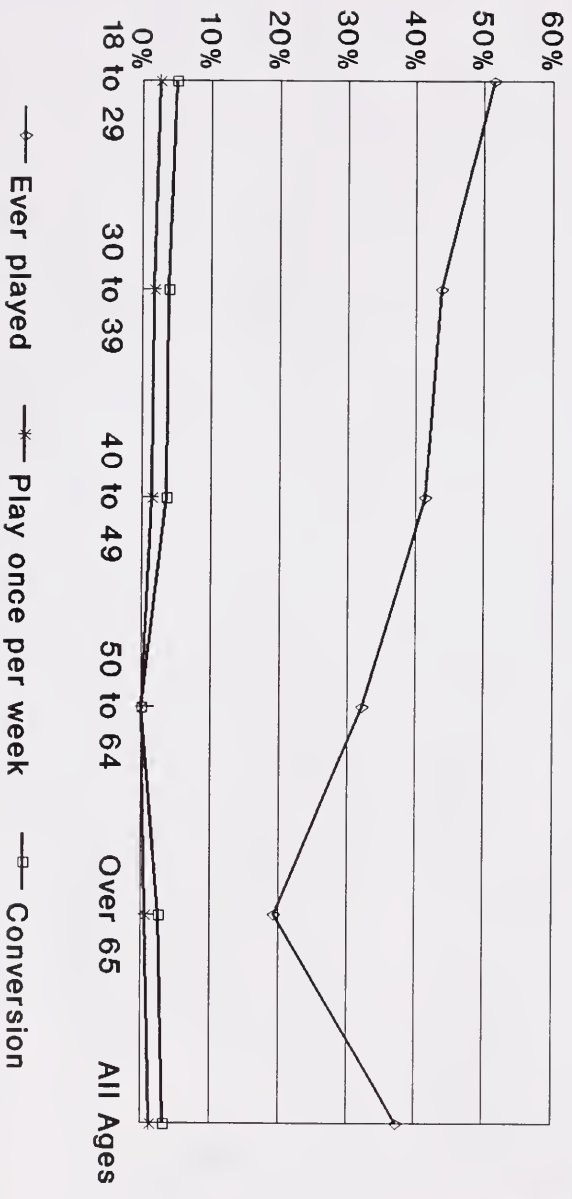
Sports Pools

Montana



N=1020

Figure 8 Outcomes Montana

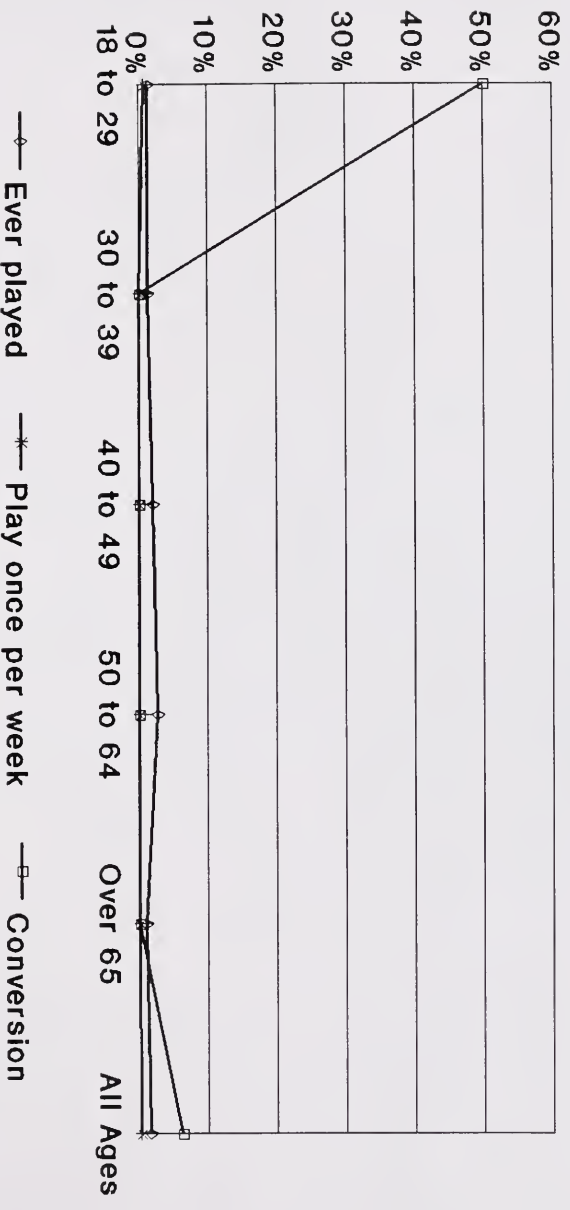


N=1020

Figure 9

Outcomes with a Bookie

Montana

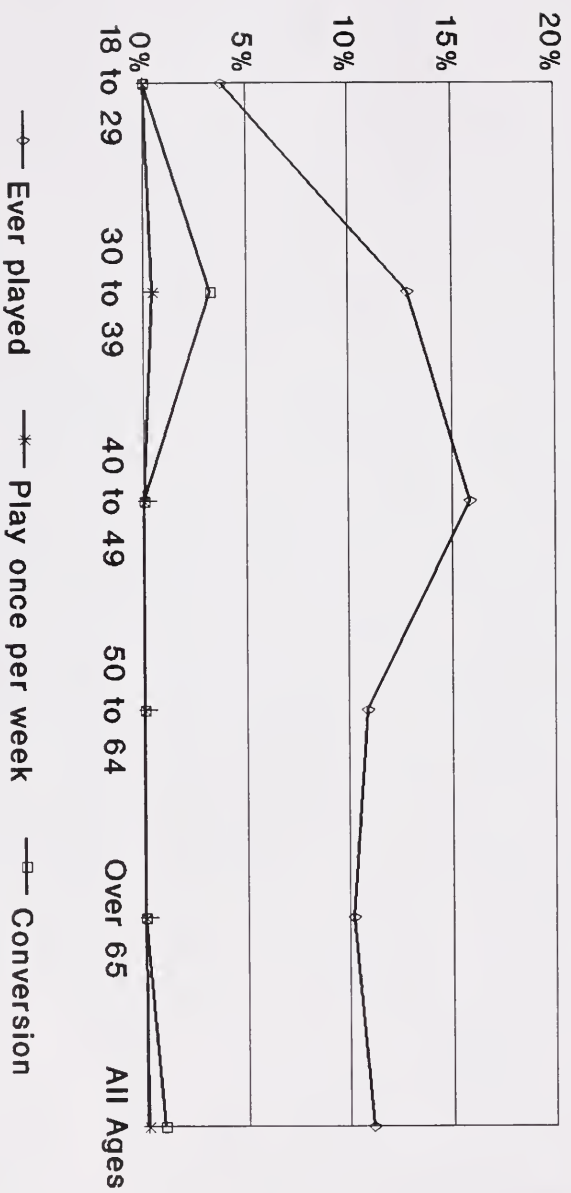


N=1020

Figure 10

Horse Racing

Montana



N=1020

Figure 11

Favorite Gambling Activities

Montana

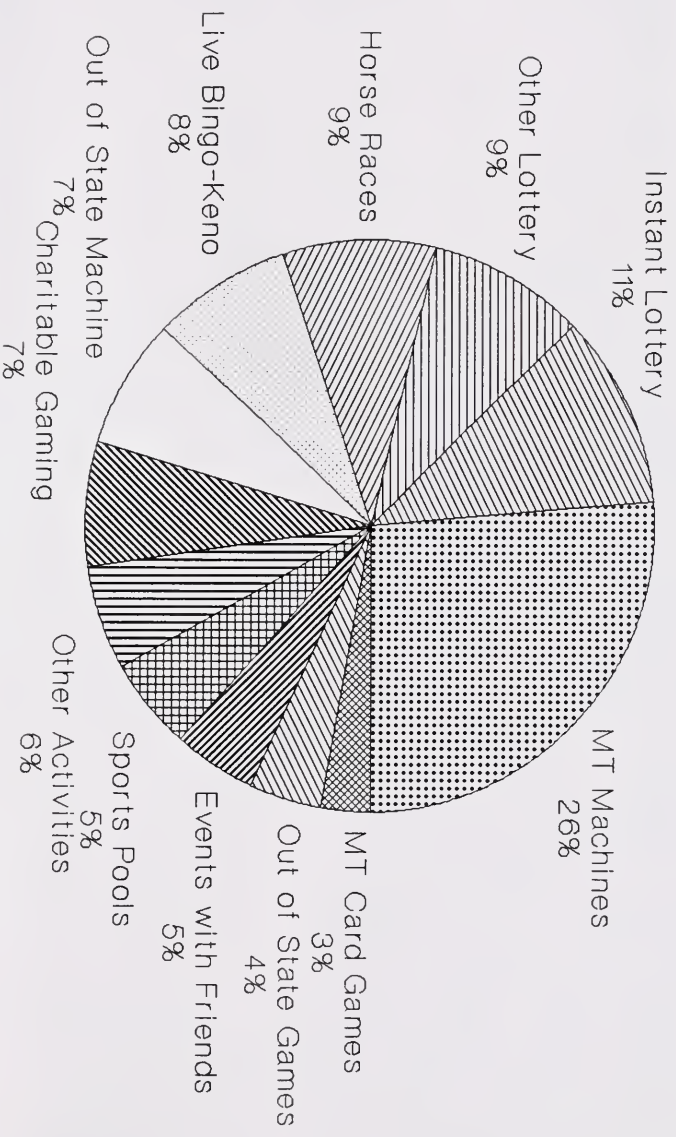
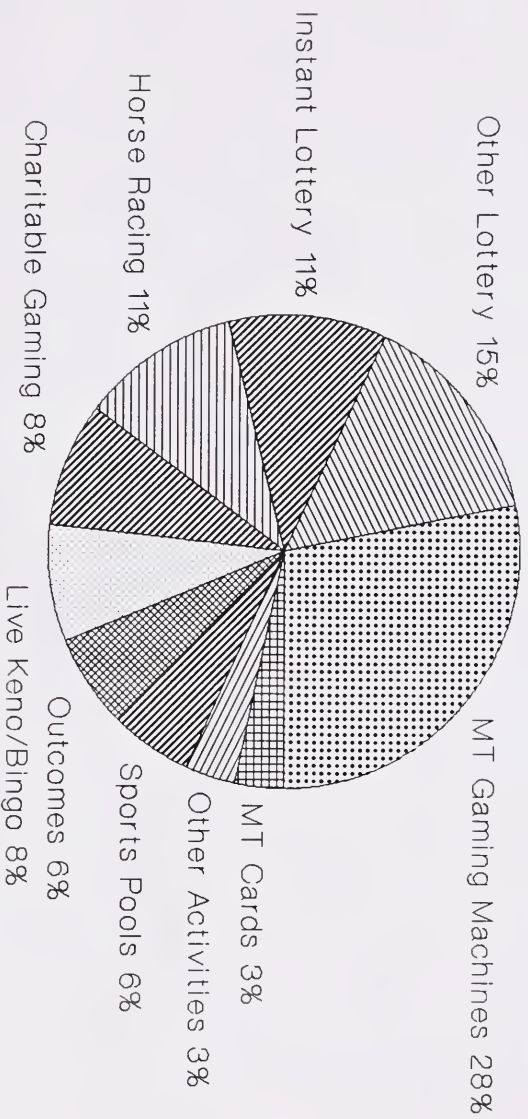
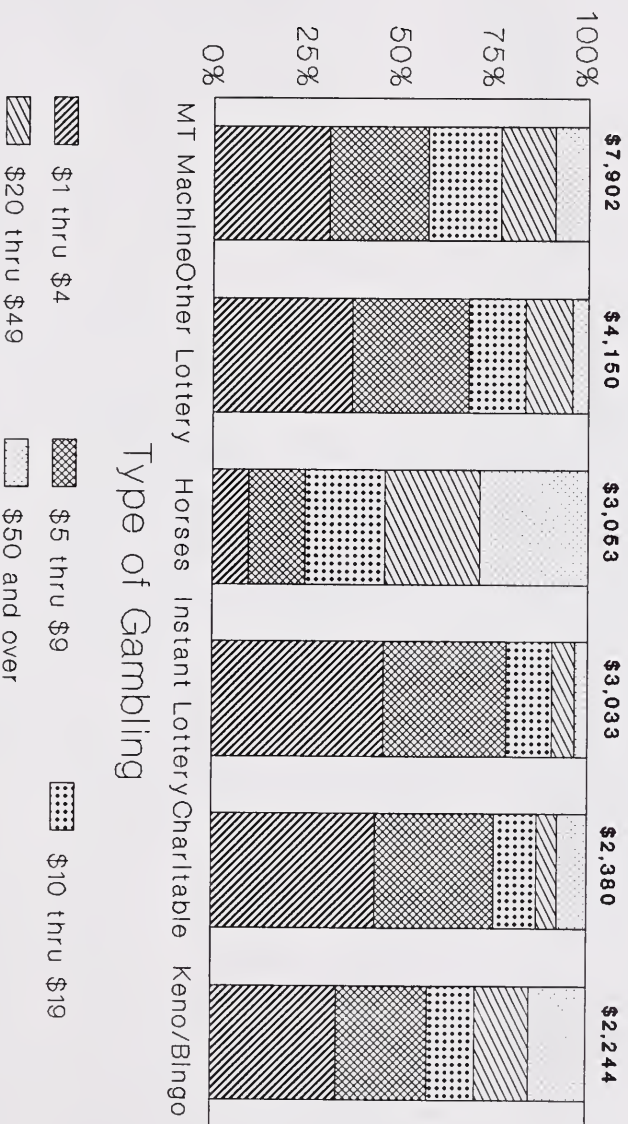


Figure 12
Monthly Expenditures on Gambling



Total Monthly Expenditures - \$28,028

Distribution of Monthly Expenditures by Gambling Activity



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